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CLAIMS

1. (currently amended) An optical add/drop multiplexing apparatus comprising:
a Micro Electro Mechanical System ("MEMS") based photonic switching fabric operably coupled to drop but not add optical data streams wherein the photonic switching fabric comprises single-sided mirrors configurable to drop but not add optical data streams; and
a non-MEMS based combiner operably coupled to combine passed optical data streams from the photonic switching fabric together with added optical data streams.
2. (cancelled)
3. (original) The optical add/drop multiplexing apparatus of claim 1, wherein the added optical data streams are not limited to the wavelengths of the dropped optical data streams.
4. (previously presented) The optical add/drop multiplexing apparatus of claim 1, wherein the combiner is a passive coupler.
5. (previously presented) The optical add/drop multiplexing apparatus of claim 1, wherein the combiner comprises filter logic for blocking an out-of-band optical data stream.
6. (original) The optical add/drop multiplexing apparatus of claim 1, further comprising a demultiplexer operably coupled to demultiplex optical data streams from an incoming fiber and provide the demultiplexed optical data streams as inputs to the photonic switching fabric.
7. (original) The optical add/drop multiplexing apparatus of claim 1, wherein the photonic switching fabric is operably coupled to output the dropped optical data streams separately from the passed optical data streams.
8. (currently amended) An optical add/drop multiplexing system comprising:

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a Micro Electro Mechanical System ("MEMS") based photonic switching fabric operably coupled to drop but not add optical data streams, wherein the photonic switching fabric comprises single-sided mirrors configurable to drop but not add optical data streams; and

a non-MEMS based combiner operably coupled to combine passed optical data streams from the photonic switching fabric together with added optical data streams.

9. (cancelled)

10. (original) The optical add/drop multiplexing system of claim 8, wherein the added optical data streams are not limited to the wavelengths of the dropped optical data streams.

11. (previously presented) The optical add/drop multiplexing system of claim 8, wherein the combiner is a passive coupler

12. (previously presented) The optical add/drop multiplexing system of claim 8, wherein the combiner comprises filter logic for blocking an out-of-band optical data stream.

13. (original) The optical add/drop multiplexing system of claim 8, further comprising a demultiplexer operably coupled to demultiplex optical data streams from an incoming fiber and provide the demultiplexed optical data streams as inputs to the photonic switching fabric.

14. (original) The optical add/drop multiplexing system of claim 8, wherein the photonic switching fabric is operably coupled to output the dropped optical data streams separately from the passed optical data streams.

15. (original) The optical add/drop multiplexing system of claim 8, wherein each added optical data stream is maintained in-band using controls external to the combiner.

16. (currently amended) Apparatus comprising:

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a Micro Electro Mechanical System (MEMS) capable of dropping but not adding optical data streams, the MEMS comprising single-sided mirrors configurable to drop but not add optical data streams and a non-MEMS based combiner operably coupled to combine passed optical data streams from the MEMS together with added optical data streams which are not from the MEMS, wherein the combiner comprises filter logic for blocking an out-of-band optical data stream.

17. (currently amended) An optical add/drop multiplexing apparatus comprising:

a Micro Electro Mechanical System ("MEMS") based photonic switching fabric operably coupled to drop but not add optical data streams, wherein the photonic switching fabric comprises single-sided mirrors configurable to drop but not add optical data streams; and

a non-MEMS based combiner operably coupled to combine passed optical data streams from the photonic switching fabric together with added optical data streams which are not from the photonic switching fabric wherein the combiner comprises filter logic for blocking an out-of-band optical data stream.

18. (previously presented) The optical add/drop multiplexing apparatus of claim 17, wherein the added optical data streams are not limited to the wavelengths of the dropped optical data streams.

19. (previously presented) The optical add/drop multiplexing apparatus of claim 17, wherein the combiner is a passive coupler.

20. (previously presented) The optical add/drop multiplexing apparatus of claim 17, further comprising a demultiplexer operably coupled to demultiplex optical data streams from an incoming fiber and provide the demultiplexed optical data streams as inputs to the photonic switching fabric.

21. (previously presented) The optical add/drop multiplexing apparatus of claim 17, wherein the photonic switching fabric is operably coupled to output the dropped optical data streams separately from the passed optical data streams.

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22. (currently amended) An optical add/drop multiplexing system comprising:

a Micro Electro Mechanical System ("MEMS") based photonic switching fabric operably coupled to drop but not add optical data streams, wherein the photonic switching fabric comprises single-sided mirrors configurable to drop but not add optical data streams; and

a non-MEMS based combiner operably coupled to combine passed optical data streams from the photonic switching fabric together with added optical data streams which are not from the photonic switching fabric wherein the combiner comprises filter logic for blocking an out-of-band optical data stream.

23. (previously presented) The optical add/drop multiplexing system of claim 22, wherein the added optical data streams are not limited to the wavelengths of the dropped optical data streams.

24. (previously presented) The optical add/drop multiplexing system of claim 22 wherein the combiner is a passive coupler.

25. (previously presented) The optical add/drop multiplexing system of claim 22, further comprising a demultiplexer operably coupled to demultiplex optical data streams from an incoming fiber and provide the demultiplexed optical data streams as inputs to the photonic switching fabric.

26. (previously presented) The optical add/drop multiplexing system of claim 22, wherein the photonic switching fabric is operably coupled to output the dropped optical data streams separately from the passed optical data streams.

27. (previously presented) The optical add/drop multiplexing system of claim 22, wherein each added optical data stream is maintained in-band using controls external to the combiner.

28. (currently amended) Apparatus comprising:

a Micro Electro Mechanical System (MEMS) capable of dropping but not adding optical data streams, the MEMS comprising single-sided mirrors configurable to drop but not add optical

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data streams and a non-MEMS based passive coupler operably coupled to combine passed optical data streams from the MEMs together with added optical data streams which are not from the MEMS, wherein the passive coupler comprises filter logic for blocking an out-of-band optical data stream.